AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS:

Claims 1-32 (Canceled).

33. (Currently Amended) A method of inducing cellular expansion, comprising the steps of:

isolating a population of cells to be expanded; and

exposing said cells to a soluble mutant flt3-L polypeptide to produce an expanded cell population, wherein said polypeptide comprises a substitution at one or more residues corresponding to amino acid position 24 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) or amino acid positions 8-15, 81-87 [[,]] or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18), wherein the mutant flt3-L polypeptide exhibits increased biological activity relative to full length wild type (SEQ ID NO:1) or mature human wild type (SEQ ID NO:18) flt3-L polypeptide.

34. (Original) The method of claim 33, wherein the expanded cell population is introduced into a patient.

35. (Original) The method of claim 33, wherein the population of cells to be expanded comprises hematopoietic cells.

36. (Original) The method of claim 33, wherein the population of cells is also exposed to a growth factor in addition to said flt3-L mutant polypeptide.

37. (Original) The method of claim 33, wherein said growth factor is selected from the group consisting of interleukins, colony stimulating factors, and protein kinases.

38. (Currently amended) A method of expanding a population of cells *in vivo*, comprising the step of administering to a subject a pharmaceutical composition of a soluble mutant flt3-L polypeptide sufficient to induce the expansion of a target cell population, wherein said polypeptide comprises a substitution at one or more residues corresponding to amino acid position 24 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) or amino acid positions 8-15, 81-87 [[,]] or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18), wherein the mutant flt3-L polypeptide exhibits increased biological activity relative to full length wild type (SEQ ID NO:1) or mature human wild type (SEQ ID NO:18) flt3-L polypeptide.

39. (Original) The method of claim 38, wherein the target cell population is isolated from the group consisting of hematopoietic cells, NK cells or dendritic cells.

40. (Original) The method of claim 38, wherein the pharmaceutical composition further comprises a growth factor in addition to said flt3-L mutant polypeptides.

41. (Original) The method of claim 40, wherein said growth factor is selected from the group consisting of interleukins, colony stimulating factors and protein kinases.

42. (Currently amended) A method of treating infection, ~~of modulating an immune response in a subject, said method~~ comprising administering to a subject having an infection ~~to said subject~~ a therapeutically effective amount of a pharmaceutical composition comprising a soluble flt3-L mutant polypeptide, wherein said polypeptide comprises a substitution at one or more residues corresponding to amino acid position 24 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) or amino acid positions 8-15, 81-87 [[,]] or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18), wherein the mutant flt3-L polypeptide exhibits increased biological activity relative to full length wild type (SEQ ID NO:1) or mature human wild type (SEQ ID NO:18) flt3-L polypeptide.

43. (Currently amended) A method of treating myelodysplasia ~~an immune disorder in a subject, said method~~ comprising administering to ~~said~~ a subject having myelodysplasia a therapeutically effective amount of a pharmaceutical composition comprising a soluble flt3-L mutant polypeptide, wherein said polypeptide comprises a substitution at one or more residues corresponding to amino acid position 24 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) or amino acid positions 8-15, 81-87 [[,]] or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18), wherein the mutant flt3-L polypeptide exhibits increased biological activity relative to full

length wild type (SEQ ID NO:1) or mature human wild type (SEQ ID NO:18) flt3-L polypeptide.

44. (Canceled).

45. (Currently amended) A method of treating cancer, ~~a pathological condition, said method~~ comprising ~~the step of~~ administering~~administration of~~ to a subject having cancer a therapeutically effective amount of a pharmaceutical composition of a soluble flt3-L mutant polypeptide, wherein said polypeptide comprises a substitution at one or more residues corresponding to amino acid position 24 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) or amino acid positions 8-15, 81-87 [[,]] or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18), wherein the mutant flt3-L polypeptide exhibits increased biological activity relative to full length wild type (SEQ ID NO:1) or mature human wild type (SEQ ID NO:18) flt3-L polypeptide ~~and wherein said condition is selected from the group consisting of myelodysplasia, aplastic anemia, Human Immunodeficiency Virus infection, breast cancer, lymphoma, small cell lung cancer, multiple myeloma, neuroblastoma, acute leukemia, testicular cancer and ovarian cancer~~.

Claims 46-51 (Canceled).

52. (Currently amended) A method of augmenting an immune response to an antigen in a subject ~~patient~~, comprising ~~the step of~~ administering ~~an~~ a therapeutically

effective amount of a pharmaceutical composition of a soluble flt3-L mutant polypeptide~~to the patient~~ sufficient to generate an increase in the number of the subject's ~~patient's~~ dendritic cells, wherein said polypeptide comprises a substitution at one or more residues corresponding to amino acid position 24 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) or amino acid positions 8-15, 81-87 [[,]] or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18), wherein the mutant flt3-L polypeptide exhibits increased biological activity relative to full length wild type (SEQ ID NO:1) or mature human wild type (SEQ ID NO:18) flt3-L polypeptide.

53. (Currently Amended) The method of claim 52, wherein the antigen is a bacterial vaccine antigen ~~patient has an infectious disease~~.

54. (Currently Amended) The method of claim 52~~53~~, wherein the antigen is a viral vaccine antigen~~infectious disease is HIV~~.

55. (Currently Amended) The method of claim 52, wherein the antigen is a cancer vaccine antigen~~patient has a cancerous or neoplastic disease~~.

Claims 56-68 (Canceled).

69. (Currently Amended) The method according to claim 33, wherein a basic amino acid within amino acid positions 8-15 or 81-87 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a non-basic~~another~~ amino acid or wherein an amino acid within amino acid positions 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a basic amino acid.

70. (Currently Amended) The method according to claim 69, wherein thesaid basic amino acid replaced within amino acid positions 8-15 or 81-87 is the His at position 8 or is the Lys at position 84 of the mature human wild type flt3-L (SEQ ID NO:18).

71. (Currently Amended) The method according to claim 33, wherein a second polypeptide is fused to the soluble mutant flt3-L ligand (flt3-L) polypeptide, wherein said second polypeptide is erythropoietin (EPO), thrombopoietin (TPO), granulocyte-macrophage Colony Stimulating Factor (GM-CSF), granulocyte Colony Stimulating Factor (G-CSF), an interleukin, an immunoglobulin, or fragments thereof, wherein the fragments retain the biological activity of the second polypeptide.

72. (Currently Amended) The method according to claim 33, wherein said substitution at one or more residues corresponds to amino acid positions 8, 84, 118 [[,]] or 122 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18).

73. (Currently Amended) The method according to claim 33, wherein said soluble mutant flt3-L ligand (flt3-L) polypeptide comprises one or more substitutions corresponding to L1H (SEQ ID NO:10), H8Y (SEQ ID NO:11), W118R (SEQ ID NO:16), K84E (SEQ ID NO:14), K84T (SEQ ID NO:15) [[,]] or Q122R (SEQ ID NO:17).

74. (Currently Amended) The method according to claim 33, wherein said soluble mutant flt3-L polypeptide comprises amino acids 28-160, 28-182 [[,]] or 28-185 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) ~~and wherein said mutant flt3-L polypeptide comprises a substitution at one or more residues corresponding to amino acid positions 8-15, 81-87, or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18)~~.

75. (Currently Amended) The method according to claim 38, wherein a basic amino acid within amino acid positions 8-15 or 81-87 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a non-basic ~~another~~ amino acid or wherein an amino acid within amino acid positions 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a basic amino acid.

76. (Currently Amended) The method according to claim 75, wherein the ~~said~~ basic amino acid replaced within amino acid positions 8-15 or 81-87 is the His at position 8 or ~~is~~ the Lys at position 84 of the mature human wild type flt3-L (SEQ ID NO:18).

77. (Currently Amended) The method according to claim 38, wherein a second polypeptide is fused to the soluble mutant flt3-L ~~ligand (flt3-L)~~ polypeptide, wherein said second polypeptide is erythropoietin (EPO), thrombopoietin (TPO), granulocyte-macrophage Colony Stimulating Factor (GM-CSF), granulocyte Colony

Stimulating Factor (G-CSF), an interleukin, an immunoglobulin, or fragments thereof, wherein the fragments retain the biological activity of the second polypeptide.

78. (Currently Amended) The method according to claim 38, wherein said substitution at one or more residues corresponds to amino acid positions 8, 84, 118 [[,]] or 122 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18).

79. (Currently Amended) The method according to claim 38, wherein said soluble mutant flt3-L ligand (flt3-L) polypeptide comprises one or more substitutions corresponding to L1H (SEQ ID NO:10), H8Y (SEQ ID NO:11), W118R (SEQ ID NO:16), K84E (SEQ ID NO:14), K84T (SEQ ID NO:15) [[,]] or Q122R (SEQ ID NO:17).

80. (Currently Amended) The method according to claim 38, wherein said soluble mutant flt3-L polypeptide comprises amino acids 28-160, 28-182 [[,]] or 28-185 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) and wherein said mutant flt3-L polypeptide comprises a substitution at one or more residues corresponding to amino acid positions 8-15, 81-87, or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18).

81. (Currently Amended) The method according to claim 42, wherein a basic amino acid within amino acid positions 8-15 or 81-87 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a non-basic another amino

acid or wherein an amino acid within amino acid positions 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a basic amino acid.

82. (Currently Amended) The method according to claim 81, wherein said basic amino acid being replaced within amino acid positions 8-15 or 81-87 is the His at position 8 or ~~is~~ the Lys at position 84 of the mature human wild type flt3-L (SEQ ID NO:18).

83. (Previously Presented) The method according to claim 42, wherein a second polypeptide is fused to the soluble mutant flt3 ligand (flt3-L) polypeptide, wherein said second polypeptide is erythropoietin (EPO), thrombopoietin (TPO), granulocyte-macrophage Colony Stimulating Factor (GM-CSF), granulocyte Colony Stimulating Factor (G-CSF), an interleukin, an immunoglobulin, or fragments thereof, wherein the fragments retain the biological activity of the second polypeptide.

84. (Currently Amended) The method according to claim 42, wherein said substitution at one or more residues corresponds to amino acid positions 8, 84, 118 [[,]] or 122 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18).

85. (Currently Amended) The method according to claim 42, wherein said soluble mutant flt3-L ~~ligand (flt3-L)~~ polypeptide comprises one or more substitutions corresponding to L1H (SEQ ID NO:10), H8Y (SEQ ID NO:11), W118R (SEQ ID NO:16), K84E (SEQ ID NO:14), K84T (SEQ ID NO:15) [[,]] or Q122R (SEQ ID NO:17).

Claims 86-87 (Canceled).

88. (Currently Amended) The method according to claim 42, wherein said soluble mutant flt3-L polypeptide comprises amino acids 28-160, 28-182 [[,]] or 28-185 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) ~~and wherein said mutant flt3-L polypeptide comprises a substitution at one or more residues corresponding to amino acid positions 8-15, 81-87, or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18)~~.

89. (Currently Amended) The method according to claim 43, wherein a basic amino acid within amino acid positions 8-15 or 81-87 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a non-basic ~~another~~ amino acid, or wherein an amino acid within amino acid positions 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a basic amino acid.

90. (Currently Amended) The method according to claim 89, wherein said basic amino acid replaced within amino acid positions 8-15 or 81-87 is the His at position 8 or ~~is~~ the Lys at position 84 of the mature human wild type flt3-L (SEQ ID NO:18).

91. (Previously Presented) The method according to claim 43, wherein a second polypeptide is fused to the soluble mutant flt3 ligand (flt3-L) polypeptide, wherein said second polypeptide is erythropoietin (EPO), thrombopoietin (TPO), granulocyte-macrophage Colony Stimulating Factor (GM-CSF), granulocyte Colony Stimulating Factor (G-CSF), an interleukin, an immunoglobulin, or fragments thereof, wherein the fragments retain the biological activity of the second polypeptide.

92. (Currently Amended) The method according to claim 43, wherein said substitution at one or more residues corresponds to amino acid positions 8, 84, 118 [[,]] or 122 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18).

93. (Currently Amended) The method according to claim 43, wherein said soluble mutant flt3-L ~~ligand (flt3-L)~~ polypeptide comprises one or more substitutions corresponding to L1H (SEQ ID NO:10), H8Y (SEQ ID NO:11), W118R (SEQ ID NO:16), K84E (SEQ ID NO:14), K84T (SEQ ID NO:15) [[,]] or Q122R (SEQ ID NO:17).

Claims 94-95 (Canceled).

96. (Currently Amended) The method according to claim 43, wherein said soluble mutant flt3-L polypeptide comprises amino acids 28-160, 28-182 [[,]] or 28-185 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) ~~and wherein said mutant flt3-L polypeptide comprises a substitution at one or more residues~~

~~corresponding to amino acid positions 8-15, 81-87, or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18)~~.

97. (Currently Amended) The method according to claim 45, wherein a basic amino acid within amino acid positions 8-15 or 81-87 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a non-basic ~~another~~ amino acid or wherein an amino acid within amino acid positions 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a basic amino acid.

98. (Currently Amended) The method according to claim 97, wherein the ~~said~~ basic amino acid replaced within amino acid positions 8-15 or 81-87 is the His at position 8 or ~~is~~ the Lys at position 84 of mature human wild type flt3-L (SEQ ID NO:18).

99. (Currently Amended) The method according to claim 45, wherein a second polypeptide is fused to the soluble mutant flt3-L ~~ligand (flt3-L)~~ polypeptide, wherein said second polypeptide is erythropoietin (EPO), thrombopoietin (TPO), granulocyte-macrophage Colony Stimulating Factor (GM-CSF), granulocyte Colony Stimulating Factor (G-CSF), an interleukin, an immunoglobulin, or fragments thereof, wherein the fragments retain the biological activity of the second polypeptide.

100. (Currently Amended) The method according to claim 45, wherein said substitution at one or more residues corresponds to amino acid positions 8, 84, 118 [[,]] or 122 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18).

101. (Currently Amended) The method according to claim 45, wherein said soluble mutant flt3-L ~~ligand (flt3-L)~~ polypeptide comprises one or more substitutions corresponding to L1H (SEQ ID NO:10), H8Y (SEQ ID NO:11), W118R (SEQ ID NO:16), K84E (SEQ ID NO:14), K84T (SEQ ID NO:15) [[,]] or Q122R (SEQ ID NO:17).

Claims 102-103 (Canceled).

104. (Currently Amended) The method according to claim 45, wherein said soluble mutant flt3-L polypeptide comprises amino acids 28-160, 28-182 [[,]] or 28-185 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1)~~, wherein said mutant flt3-L polypeptide comprises a substitution at one or more residues corresponding to amino acid positions 8-15, 81-87, or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18), and wherein said condition is selected from the group consisting of myelodysplasia, aplastic anemia, Human Immunodeficiency Virus infection, breast cancer, lymphoma, small cell lung cancer, multiple myeloma, neuroblastoma, acute leukemia, testicular cancer, and ovarian cancer~~.

105. (Currently Amended) The method according to claim 52, wherein a basic amino acid within amino acid positions 8-15 or 81-87 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a non-basic ~~another~~ amino acid or wherein an amino acid within amino acid positions 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a basic amino acid.

106. (Currently Amended) The method according to claim 105, wherein the ~~said~~ basic amino acid replaced within amino acid positions 8-15 or 81-87 is the His at position 8 or ~~is~~ the Lys at position 84 of mature human wild type flt3-L (SEQ ID NO:18).

107. (Currently Amended) The method according to claim 52, wherein a second polypeptide is fused to the soluble mutant flt3-L ~~ligand (flt3-L)~~ polypeptide, wherein said second polypeptide is erythropoietin (EPO), thrombopoietin (TPO), granulocyte-macrophage Colony Stimulating Factor (GM-CSF), granulocyte Colony Stimulating Factor (G-CSF), an interleukin, an immunoglobulin, or fragments thereof, wherein the fragments retain the biological activity of the second polypeptide.

108. (Currently Amended) The method according to claim 52, wherein said substitution at one or more residues corresponds to amino acid positions 8, 84, 118 [[,]] or 122 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18).

109. (Currently Amended) The method according to claim 52, wherein said soluble mutant flt3-L ~~ligand (flt3-L)~~ polypeptide comprises one or more substitutions corresponding to L1H (SEQ ID NO:10), H8Y (SEQ ID NO:11), W118R (SEQ ID NO:16), K84E (SEQ ID NO:14), K84T (SEQ ID NO:15) [[,]] or Q122R (SEQ ID NO:17).

110. (Currently Amended) The method according to claim 52, wherein said soluble mutant flt3-L polypeptide comprises amino acids 28-160, 28-182 [[,]] or 28-185

of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) ~~and wherein said mutant flt3-L polypeptide comprises a substitution at one or more residues corresponding to amino acid positions 8-15, 81-87, or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18)~~.

111. (New) A method for transplanting hematopoietic stem cells, progenitor cells or both hematopoietic stem cells and progenitor cells in a patient in need thereof, comprising:

(a) administering a therapeutically effective amount of a pharmaceutical composition of a soluble flt3-L mutant polypeptide to the patient, wherein said polypeptide has a substitution at one or more residues corresponding to amino acid position 24 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) or amino acid positions 8-15, 81-87 or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) wherein the mutant flt3-L polypeptide exhibits increased biological activity relative to full length wild type (SEQ ID NO:1) or mature human wild type (SEQ ID NO:18) flt3-L polypeptide; and

(b) transplanting hematopoietic stem cells, progenitor cells or both to the patient.

112. (New) The method according to claim 111, further comprising administering radiation, chemotherapy or both radiation and chemotherapy to the patient.

113. (New) The method according to claim 111, wherein the hematopoietic stem cells or progenitor cells are allogeneic.

114. (New) The method according to claim 111, wherein the hematopoietic stem cells or progenitor cells are autologous.

115. (New) The method according to claim 111, wherein a basic amino acid within amino acid positions 8-15 or 81-87 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a non-basic amino acid, or wherein an amino acid within amino acid positions 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a basic amino acid.

116. (New) The method according to claim 115, wherein the basic amino acid replaced within amino acid positions 8-15 or 81-87 is the His at position 8 or the Lys at position 84 of the mature human wild type flt3-L (SEQ ID NO:18).

117. (New) The method according to claim 115, wherein the amino acid replaced within amino acid positions 116-124 is the Trp at position 118 or the Gln at position 122 of the mature human wild type flt3-L (SEQ ID NO:18).

118. (New) The method according to claim 111, wherein a second polypeptide is fused to the soluble mutant flt3-L polypeptide, wherein said second polypeptide is erythropoietin (EPO), thrombopoietin (TPO), granulocyte-macrophage Colony Stimulating Factor (GM-CSF), granulocyte Colony Stimulating Factor (G-CSF), an interleukin, an immunoglobulin, or fragments thereof, wherein the fragments retain the biological activity of the second polypeptide.

119. (New) The method according to claim 111, wherein said substitution at one or more residues corresponds to amino acid positions 8, 84, 118 or 122 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18).

120. (New) The method according to claim 111, wherein said soluble mutant flt3-L polypeptide has one or more substitutions corresponding to L1H (SEQ ID NO:10), H8Y (SEQ ID NO:11), W118R (SEQ ID NO:16), K84E (SEQ ID NO:14), K84T (SEQ ID NO:15) or Q122R (SEQ ID NO:17).

121. (New) The method according to claim 111, wherein said soluble mutant flt3-L polypeptide comprises amino acids 28-160, 28-182 or 28-185 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1).

122. (New) A method for transplanting hematopoietic stem cells, progenitor cells or both hematopoietic stem cells and progenitor cells in a patient in need thereof, comprising:

(a) administering *ex vivo* a therapeutically effective amount of a pharmaceutical composition of a soluble flt3-L mutant polypeptide to hematopoietic stem cells, progenitor cells or both hematopoietic stem cells and progenitor cells, wherein said polypeptide has a substitution at one or more residues corresponding to amino acid position 24 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1) or amino acid positions 8-15, 81-87 or 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) wherein the mutant flt3-L polypeptide exhibits increased biological activity relative to full length wild type (SEQ ID NO:1) or mature human wild type (SEQ ID NO:18) flt3-L polypeptide; and

(b) transplanting hematopoietic stem cells, progenitor cells or both to the patient.

123. (New) The method according to claim 122, further comprising administering radiation, chemotherapy or both radiation and chemotherapy to the patient.

124. (New) The method according to claim 122, wherein the hematopoietic stem cells or progenitor cells are allogeneic.

125. (New) The method according to claim 122, wherein the hematopoietic stem cells or progenitor cells are autologous.

126. (New) The method according to claim 122, wherein a basic amino acid within amino acid positions 8-15 or 81-87 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a non-basic amino acid, or wherein an amino acid within amino acid positions 116-124 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18) has been replaced with a basic amino acid.

127. (New) The method according to claim 126, wherein the basic amino acid replaced within amino acid positions 8-15 or 81-87 is the His at position 8 or the Lys at position 84 of the mature human wild type flt3-L (SEQ ID NO:18).

128. (New) The method according to claim 126, wherein the amino acid replaced within amino acid positions 116-124 is the Trp at position 118 or the Gln at position 122 of the mature human wild type flt3-L (SEQ ID NO:18).

129. (New) The method according to claim 122, wherein a second polypeptide is fused to the soluble mutant flt3-L polypeptide, wherein said second polypeptide is erythropoietin (EPO), thrombopoietin (TPO), granulocyte-macrophage Colony Stimulating Factor (GM-CSF), granulocyte Colony Stimulating Factor (G-CSF), an interleukin, an immunoglobulin, or fragments thereof, wherein the fragments retain the biological activity of the second polypeptide.

130. (New) The method according to claim 122, wherein said substitution at one or more residues corresponds to amino acid positions 8, 84, 118 or 122 of the mature human wild type flt3-L polypeptide (SEQ ID NO:18).

131. (New) The method according to claim 122, wherein said soluble mutant flt3-L polypeptide has one or more substitutions corresponding to L1H (SEQ ID NO:10), H8Y (SEQ ID NO:11), W118R (SEQ ID NO:16), K84E (SEQ ID NO:14), K84T (SEQ ID NO:15) or Q122R (SEQ ID NO:17).

132. (New) The method according to claim 122, wherein said soluble mutant flt3-L polypeptide comprises amino acids 28-160, 28-182 or 28-185 of the full length human wild type flt3-L polypeptide (SEQ ID NO:1).

133. (New) The method according to claim 45, further comprising administering radiation, chemotherapy or both radiation and chemotherapy.

134. (New) The method according to claim 69, wherein the amino acid replaced within amino acid positions 116-124 is the Trp at position 118 or the Gln at position 122 of the mature human wild type flt3-L (SEQ ID NO:18).

135. (New) The method according to claim 75, wherein the amino acid replaced within amino acid positions 116-124 is the Trp at position 118 or the Gln at position 122 of the mature human wild type flt3-L (SEQ ID NO:18).

136. (New) The method according to claim 81, wherein the amino acid replaced within amino acid positions 116-124 is the Trp at position 118 or the Gln at position 122 of the mature human wild type flt3-L (SEQ ID NO:18).

137. (New) The method according to claim 89, wherein the amino acid replaced within amino acid positions 116-124 is the Trp at position 118 or the Gln at position 122 of the mature human wild type flt3-L (SEQ ID NO:18).

138. (New) The method according to claim 97, wherein the amino acid replaced within amino acid positions 116-124 is the Trp at position 118 or the Gln at position 122 of the mature human wild type flt3-L (SEQ ID NO:18).

139. (New) The method according to claim 105, wherein the amino acid replaced within amino acid positions 116-124 is the Trp at position 118 or the Gln at position 122 of the mature human wild type flt3-L (SEQ ID NO:18).

140. (New) A method for treating leukemia, comprising administering a therapeutically effective amount of a pharmaceutical composition of a soluble flt3-L

mutant polypeptide to a subject in need thereof, wherein said polypeptide has a mutation corresponding to L27P (SEQ ID NO:13).

141. (New) The method according to claim 140, wherein the leukemia is acute myelogenous leukemia.